Office Action Summary	Application No.	Applicant(s)	
	09/872,920	CHANDRA ET AL.	
	Examiner	Art Unit	
	Kristie D. Shingles	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-8,10-29,31-35 and 37-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-8,10-29,31-35 and 37-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Per Applicant's Request for Continued Examination
Claims 1, 2, 7, 8, 12, 16, 20, 24, 27-29, 34, 35, 39 and 43 have been amended.
Claims 3, 9, 30 and 36 have been cancelled.

Claims 1, 2, 4-8, 10-29, 31-35 and 37-43 are pending.

Continued Examination Under 37 CFR 1.114

I. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/11/2007 has been entered.

Response to Arguments

II. Applicant's arguments with respect to claims 1, 7, 12, 13, 20, 24, 28, 34, 39 and 43 have been considered but are moot in view of the new ground(s) of rejection.

CLAIM REJECTIONS - 35 USC § 103

III. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

IV. Claims 1, 2, 4-8, 10, 11, 16-29, 31-35 and 37-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Fuchs et al* (USPN 5,440,726) in view of *Ault et al* (USPN 6,907,605).

a. **Regarding claims 1 and 28,** *Fuchs et al* teach a computer implemented method and machine-readable medium comprising:

- receiving by a second network process a first set of data from a first network process (*col.7 lines 20-50*);
- death of the first network process (*col.7 lines 56-60*);
- clearing the first set of data by the second network process if a time period expires (*col.8 lines 29-57, col.14 lines 38-47, col.24 lines 33-43, col.27 lines 65-68*); and
- synchronizing by the second network process, the first set of data with a second set of data if the time period does not expire, the second set of data received from the first network process after the first network process restarts (*col.10 line 14-col.11 line 18, col.25 lines 35-65*).

Fuchs et al teach the death of a network process, yet fail to explicitly teach receiving a notification of death of the first network process; and clearing the first set data upon receiving the notification of death of the first network process. However, *Ault et al* teach notifying a second process of the death of a first process and then deleting the first set of data by the second process upon notification of the first process's death (*Abstract, col.1 lines 51-60, col.4 lines 15-19 and 45-52*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the system of *Fuchs et al* with *Ault et al*'s process notification system for clearing the first set of data upon receiving the notification of death, because this

prevents the system from further storing or processing invalid data because which may corrupt the system and compromise the integrity of the processes.

b. **Regarding claim 16,** *Fuchs et al* teach a network element comprising:

- a first processor to execute a first and second network process, the first network process to generate a first set of data before restarting and a second set of data after restarting, the second network process to synchronize for itself the first and second set of data (*col.10 lines 15-20*);

- the second network process to synchronize the first set of data with a second set of data generated by the first network process before restarting upon determining a time period has not expired, (*col.11 lines 22-66, col.13 line 38-col.14 line 47*); and

- a second processor coupled to the first processor, the second processor to process a set of traffic using the first set of data before the first network process restarts and a third set of data after the first network process restarts (*col.10 line 14-col.11 line 18*).

Fuchs et al teach the death of a network process, yet fail to explicitly teach clearing the first set data upon receiving a notification of death of the first network process. However, *Ault et al* teach notifying a second process of the death of a first process and then deleting the first set of data by the second process upon notification of the first process's death (*Abstract, col.1 lines 51-60, col.4 lines 15-19 and 45-52*).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the system of *Fuchs et al* with *Ault et al*'s process notification system for clearing the first set of data upon receiving the notification of death, because this prevents the system from further storing or processing invalid data because which may corrupt the system and compromise the integrity of the processes.

c. **Claims 20 and 24** contain limitations that are substantially similar to claim 16 and are therefore rejected under the same basis.

d. **Claims 39 and 43** contain limitations that are substantially similar to claims 1 and 16 and are therefore rejected under the same basis.

e. **Regarding claims 2, 27 and 29,** *Fuchs et al* with *Ault et al* teach the computer-implemented method of claim 1, *Fuchs et al* further teach the method further comprising indicating the first set of data as stale upon receiving the notification of death (*col.9 line 11-col.11 line 18; Ault et al—col.3 lines 20-35, col.4 lines 15-44*).

f. **Regarding claims 4 and 31,** *Fuchs et al* with *Ault et al* teach the computer implemented method of claim 1, *Fuchs et al* further teach the method wherein the first set of data and the second set of data are synchronized after a done signal is received (*col.10 line 14-col.11 line 18, col.25 lines 35-65*).

g. **Regarding claims 5 and 32,** *Fuchs et al* with *Ault et al* teach the computer implemented method of claim 1, *Fuchs et al* further teach the method further comprising restoring a set of configurations to the network process after the first network process restarts (*Abstract, col.9 line 11-col.12 line 18*).

h. **Regarding claims 6 and 33,** *Fuchs et al* with *Ault et al* teach the computer-implemented method of claim 1, *Fuchs et al* further teach the method wherein further comprising clearing the second set of data if the time period expires and a done signal is not received (*col.8 lines 29-57, col.24 lines 33-43, col.27 lines 65-68*).

i. **Claims 7 and 34** are substantially equivalent to claims 5 and 6 and are therefore rejected under the same basis.

j. **Claims 8 and 35** are substantially equivalent to claim 2 and are therefore rejected under the same basis.

k. **Claims 10 and 37** are substantially equivalent to claim 4 and are therefore rejected under the same basis.

l. **Claim 11 and 38** are substantially equivalent to claim 6 and are therefore rejected under the same basis.

m. **Regarding claim 17,** *Fuchs et al* with *Ault et al* teach the network element of claim 16, *Fuchs et al* further teach the method wherein the first processor comprises a memory to store the first, second and third set of data (*col.13 lines 53-58, col.14 lines 48-53; Ault et al—col.2 lines 42-67*).

n. **Regarding claim 18,** *Fuchs et al* with *Ault et al* teach the network element of claim 16, *Fuchs et al* further teach the method further comprising the first processor to allocate a first memory to the first network process and a second memory to the second network process (*col.13 lines 53-58, col.14 lines 48-53; Ault et al—col.2 lines 42-67*).

o. **Regarding claim 19,** *Fuchs et al* with *Ault et al* teach the network element of claim 16, *Fuchs et al* further teach the method further comprising the first processor to allocate a first memory to the first network process, a second memory to the second network process, and a third memory to store the first set of data, the second set of data, and the third set of data (*col.13 lines 53-58, col.14 lines 48-53; Ault et al—col.2 lines 42-67*).

p. **Regarding claim 21,** *Fuchs et al* with *Ault et al* teach the network element of claim 20, *Fuchs et al* further teach the element wherein the first memory, the second memory

and the third memory are main memory (*col.13 lines 53-58, col.14 lines 48-53; Ault et al—col.2 lines 42-67*).

q. **Regarding claim 22,** *Fuchs et al* with *Ault et al* teach the network element of claim 20, *Fuchs et al* further teach wherein the first memory, the second memory, and the third memory are mass storage (*col.13 lines 53-58, col.14 lines 48-53*).

r. **Regarding claim 23,** *Fuchs et al* with *Ault et al* teach the network element of claim 20, *Fuchs et al* further teach wherein the first memory, the second memory, and the third memory are a set of regions of a memory (*col.13 lines 53-58, col.14 lines 48-53; Ault et al—col.2 lines 42-67*).

s. **Regarding claim 25,** *Fuchs et al* with *Ault et al* teach the network element of claim 24, *Fuchs et al* further teach wherein the second network element comprises: a first memory to store the first set of data and the synchronized set of data; and a second memory to store the second set of data (*col.13 lines 53-58, col.14 lines 48-53*).

t. **Regarding claims 26 and 42,** *Fuchs et al* with *Ault et al* teach the system of claims 24 and 39, *Fuchs et al* further teach further comprising the second network element to clear the first and second set of data if a time period expires (*col.8 lines 29-57, col.24 lines 33-43, col.27 lines 65-68, col.28 lines 34-44*).

u. **Regarding claim 40,** *Fuchs et al* with *Ault et al* teach the method of claim 39, *Fuchs et al* further teach wherein the timer is initialized upon receipt of the death notification (*col.11 lines 47-53*).

v. **Regarding claim 41,** *Fuchs et al* with *Ault et al* teach the method of claim 40, *Fuchs et al* further teach wherein the death notification is based on an absence of a heartbeat from the second network process (*col.11 lines 44-66; Ault et al—Abstract*).

V. Claims 12 - 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kidder et al* (USPN 6,694,450) in view of *Damani et al* (USPN 5,938,775) and *Ault et al* (USPN 6,907,605).

w. **Regarding claim 12,** *Kidder et al* teach a network element comprising:

- a cross connect control module to host a first and second network process, the first network process to generate a first set of data after restarting and the second network process to synchronize for itself the first set of data with a second set of data generated by the first network process before restarting (*col.3 lines 42-52, col.3 line 63-col.4 line 6, col.42,line 66-col.43 line 12*); and

- a traffic card coupled to the cross connect module, the traffic card to process a set of traffic with the synchronized first and second set of data (*col.3 lines 42-52, col.3 line 63-col.4 line 6, col.42,line 66-col.43 line 12*).

Kidder et al fail to explicitly teach the second network process to synchronize the first set of data with a second set of data generated by the first network process before restarting upon determining a time period has not expired, the time period beginning upon receiving a notification of death of the first network process. However, *Damani et al* teach rollback-synchronization among the processes wherein the inter-process communication (orphaned) data rolled-back if the time period expires (*col.3 lines 32-40, col.6 lines 44-59, col.7 lines 9-34, col.9 lines 11-13, col.9 line 54-col.10 line 14*). Furthermore, *Ault et al* teach notifying a second process of the death of a first process and then deleting the first set of data by the second process upon notification of the first process's death (*Abstract, col.1 lines 51-60, col.4 lines 15-19 and 45-52*). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the restart and rollback system of *Kidder et al* with *Damani et al*'s fault

tolerant IPC message passing system and *Ault et al*'s process notification system wherein a notification of a process death is sent to alert other processes, doing so, allows for the other processes to stop communication with and processing data from the dead process since the data may corrupt the system and compromise the integrity of the processes.

x. **Regarding claim 13,** *Kidder et al* with *Damani et al* and *Ault et al* teach the network element of claim 12, *Kidder et al* further teach the element wherein the cross connect module comprises a first and second memory to host the first and second network process (*col.3 lines 42-52, col.3 line 63-col.4 line 6*).

y. **Regarding claim 14,** *Kidder et al* with *Damani et al* and *Ault et al* teach the network element of claim 12, *Kidder et al* further teach the element wherein the traffic card comprises a set of processors to process the first and second set of data (*col.3 lines 42-52, col.3 line 63-col.4 line 6*).

z. **Regarding claim 15,** *Kidder et al* with *Damani et al* and *Ault et al* teach the network element of claim 12, *Kidder et al* further teach the element wherein the cross connect module comprises: a first memory to host the first network process; a second memory coupled to the first memory, the second memory to host the second network process; and a third memory coupled to the first and second memory, the third memory to store the first set of data, second set of data, and the synchronized set of data (*col.3 lines 42-52, col.3 line 63-col.4 line 6, col.42 line 66-col.43 line 12*).

Conclusion

VI. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Nakamura (US 6,446,134).

VII. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie D. Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds